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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,699	09/24/2003	James Christopher Matabayas JR.	42P17196	6182

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INTEL CORPORATION  
c/o INTELLEVATE, LLC  
P.O. BOX 52050  
MINNEAPOLIS, MN 55402

EXAMINER

EASHOO, MARK

ART UNIT PAPER NUMBER

1732

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/670,699

Applicant(s)

MATABAYAS, JAMES  
CHRISTOPHER

Examiner

Mark Eashoo, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,5-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,5-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glatkowschi et al. (US Pat. 6,265,466) in view of Bandyopadhyay et al. (US 2004/0016912 A1).

Regarding claim 10, 2, 6, and 7: Glatkowschi et al. teaches the claimed process, comprising: combining at least carbon nanotubes, additives/alignment material, and an olefin polymer, namely, polyethylene or polypropylene (abstract, 3:5-25, and 3:40-65); and aligning the nanotubes and another/alignment material by shear forces (abstract, 4:25-65).

Glatkowschi et al. does not teach a clay filler. However, Bandyopadhyay et al. teaches a clay filler (§ 32-33). At the time of invention a person of ordinary skill in the art would have found it obvious to have used a clay filler, as taught by Bandyopadhyay et al., in the process of Glatkowschi et al., and would have been motivated to do so because Bandyopadhyay et al. suggests that various mixtures of conductive and non-conductive fillers may be used in a composite material used for electromagnetic shielding (ie. combining equivalents known for the same purpose - see MPEP § 2144.06).

Glatkowschi et al. teaches the basic claimed process, comprising: combining at least carbon nanotubes, additives/alignment material, and an olefin polymer, namely, polyethylene or polypropylene (abstract, 3:5-25, and 3:40-65); and aligning the nanotubes and another/alignment material by shear forces (abstract, 4:25-65).

Regarding claim 5: Glatkowschi et al. also teaches nanotubes in the range of 0.001 to 15 weight percent (3:66-4:5).

Regarding claims 8-9: Glatkowschi et al. does not teach a conductive filler. However, Bandyopadhyay et al. teaches a conductive filler of aluminum, copper, or silver (§ 13). Glatkowschi et al. and Bandyopadhyay et al. are combinable because they are from the same field of endeavor, namely, forming composites for electromagnetic shielding. At the time of invention a person of ordinary skill in the art would have found it obvious to have used a conductive filler of aluminum, copper, or silver, as taught by Bandyopadhyay et al., in the process of Glatkowschi et al., and would have been motivated to do so because Bandyopadhyay et al. suggests that various mixtures of conductive fillers may be used in a composite material used for electromagnetic shielding (ie. combining equivalents known for the same purpose - see MPEP § 2144.06).

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Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glatkowschi et al. (US Pat. 6,265,466) in view of Bandyopadhyay et al. (US 2004/0016912 A1) as applied to claims 2 and 5-10 above, and further in view of Lan et al. (US Pat. 6,387,996).

Glatkowschi et al. teaches the basic claimed process as set forth above.

Regarding claims 11, 13, and 14: Glatkowschi et al. does not teach clay formed in a particular manner or of specific dimensions. Nonetheless, Lan et al. teaches a clay material prepared by dispersing the clay in water of about 50-80°C, adding a cation salt to the clay water mixture and blending, isolating the clay and reducing the clay to a average/mean size of less than about 100 microns (9:20-60). Lan et al. further teaches that the such clay particles have a cation exchange capacity of 0.5 to 2.0 meq/g and are less than 2 nm thick and have a diameter of about 10-3,000 nm (7:40-8:15). At the time of invention a person of ordinary skill in the art would have found it obvious to have used a clay material, as taught by Lan et al., in the process of Glatkowschi et al., and would have been motivated to do so because Lan et al. suggests such processed clay are able to be finely dispersed in the composite matrix.

Regarding claim 12: Glatkowschi et al. does not teach specific clay, polymer/matrix, and nanotube amounts in a composite. However, Bandyopadhyay et al. teaches a composite of 1-60% clay (¶ 32), 10-99.5% polymer/matrix (claim 5), and 0.25-60% nanotubes (¶ 19). At the time of invention a person of ordinary skill in the art would have found it obvious to have used 1-60% clay, 10-99.5% polymer/matrix, and 0.25-60% nanotubes, as taught by Bandyopadhyay et al., in the process of Glatkowschi et al., and would have been motivated to do so because Bandyopadhyay et al. suggests that such mixture of conductive, non-conductive fillers, and polymer may be used in a composite material used for electromagnetic shielding (ie. combining equivalents known for the same purpose - see MPEP § 2144.06).

Bandyopadhyay et al. further teaches that sheet of such materials are extruded (¶ 33). It is submitted that it is intrinsic that the extrudate must be cut/divided to be used as intended. Glatkowschi et al. and Bandyopadhyay et al. would have been combined for substantially the same reasons as set forth above.

#### ***Response to Arguments***

Applicant's arguments filed 11-MAY-2006 have been fully considered but they are not persuasive, because:

A.) In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Bandyopadhyay et al. clearly suggests that various mixtures of conductive fillers may be used in a composite material for electromagnetic shielding.

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It is well established that a prima facie of obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, , 205 USPQ 1069, 1072 (CCPA 1980), also see MPEP § 2144.06. In this instance, Bandyopadhyay et al. teaches the relative percentages of conductive and non-conductive filler materials used as composite material for electromagnetic shielding. Glatkowschi et al. is concerned with a composite material for electromagnetic shielding using a specific conductive filler, namely nanotubes. Therefore, it is submitted that the addition of clay particles as taught by Bandyopadhyay et al. flows logically from the basis that Bandyopadhyay et al. has specifically taught the individual use of a clay filler in a composite material for electromagnetic shielding.

B.) In response to applicant's that the references do not teach clay as an 'alignment material', the examiner recognizes that all of the claimed effects and physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredients, process steps, and process conditions. Therefore, the claimed effects and physical properties would inherently be achieved by carrying out the disclosed process. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the examiner's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects by carrying out only these process steps.

#### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### *Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Eashoo, Ph.D. whose telephone number is (571) 272-1197. The examiner can normally be reached on 7am-3pm EST, Monday - Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Mark Eashoo, Ph.D.  
Primary Examiner  
Art Unit 1732

14 / Jul 06

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2006-07-14